PRECISION FIRE SUPPORT FOR MOUT

A Monograph
by

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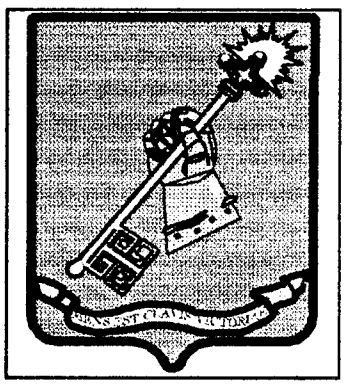
Field Artillery



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ABSTRACT

PRECISION FIRE SUPPORT FOR MOUT by MAJ Richard M. Francey, Jr., USA, 55 pages.

The recent U.S. military reorganization has led to the preponderance of forces being stationed in the continental United States (CONUS). The 1992 National Military Strategy (NMS) followed this reorganization. Force projection formed the centerpiece of this new strategy. Force projection requires secure air and sea ports. Most air and sea ports are in or adjacent to cities. The need to control these ports will force us to conduct MOUT during future operations. Since cities are also political, economic, and cultural centers of gravity, hostile forces will most likely concentrate their efforts in these urban areas. Recent operations in Panama City, Kuwait City and Mogadishu demonstrate this fact. It is also evident in other volatile areas around the world (i.e. Port-au-Prince and Sarejevo). If one accepts the assertion, that operations of the future will consist of more MOUT scenarios, then the military must prepare to conduct this difficult mission. This paper will concentrate on the preparedness of the fire support community.

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SECTION I

INTRODUCTION

The worst policy is to attack cities . . . If the general is unable to control his impatience and orders his troops to swarm the wall like ants, one-third of them will be killed without taking the city.[1]

SUN TZU

Sun Tzu's great work The Art of War has contributed many insights to warriors past and present. Many of Sun Tzu's ideas are still relevent almost 2500 years after his death. During the past 50 years, the Army formalized the essence of the above quote in doctrine. Fighting in the city was considered demanding and extremely difficult. While it remains true that military operations in urban terrain (MOUT) are one of the most difficult missions, it is a ". . . type of combat [that] cannot be avoided . . ." in the future.[2]

The 1992 National Military Strategy (NMS) provided new direction for the United States military. As the Berlin Wall came down and communist countries began grasping freedom and democracy, the world picture changed significantly. The great red menace across from the Fulda Gap was suddenly not the threat of the previous 45 years. The United States and its allies had won the Cold War. The conservative nature of the military demanded an enemy to fix on, so that they could focus their training. Also, the American people wanted to know who this enemy was to justify the defense budget. This was not an easy question to answer. Unfortunately, this new enemy was not so easily discerned. The NMS states, "The real threat we now face is

the threat of the unknown, the uncertain."[3] With the de-emphasis of Eastern Europe, the U.S. Army suddenly could not justify the large forward deployed force in Germany. With this, the Defense Department reorganized the military. This reorganization changed the military emphasis from forward presence to force projection. The reorganization demanded a different military strategy. The 1992 National Military Strategy resulted. This document established power projection (force projection is the Army term) as the centerpiece of the U.S. military strategy.[4] This greater emphasis on force projection also required an increased focus on associated missions and doctrines. A study conducted at the Naval War College concluded that since the NMS orientation had changed "emphasis on MOUT must be assigned a vastly increased priority."[5] There are two conditions that cause the increased probability of MOUT.

First, under the 1992 NMS, the military has an increased requirement for air and sea ports to facilitate force projection. Most air and sea ports are either in or adjacent to cities. Follow-on forces require these ports of debarkation. Therefore, U.S. forces will have to conduct some MOUT to produce a buffer zone between the adjacent cities and the incoming forces. This is further exacerbated by the trend of urbanization. "United Nation's estimate projects 60% of the world's population will be concentrated in cities by the year 2000."[6] This urbanization causes the cities to grow. Many of the ports, that may have been outside urban areas, will soon be within the cities' perimeter.

The second condition reflects the importance of urban areas. Joint and service doctrine (i.e., JCS Pub 3-0, FM 100-5, etc.) instruct planners to focus their actions on

centers of gravity. Future operations will lead us toward MOUT because ". . . the political and economic centers of gravity are concentrated around one or two major cities."[7] Since we can have the quickest impact on opposing forces by attacking their political center of gravity, ". . . it is likely that our forces will intervene in or near the seat of another state's government."[8] These are the conditions that the 'experts' claim will force us into urban areas. Is this mere conjecture?

We see these conditions in recent and potential operations. Military operations in urban terrain were conducted in Panama and Somalia. It was not a significant part of the operations for U.S. forces in Southwest Asia, but the potential existed since Iraqi forces were in and around Kuwait City. Potential crisis areas show strong possibilities for MOUT. Combat operations in Haiti would orient around Port-au-Prince if the situation became hostile. Most actions in Bosnia-Herzogovina are in or around cities. We also face the prospect of fighting in Seoul in the case of Korea.

So if combat in urban areas is a higher probability in the future, the Army should examine the options and prepare for them before we get there. In the words of General John W. Vessey in 1980, "We've been a bit late, perhaps, in the U.S. Forces in recognizing and dealing with the tactical and technical problems that combat in built-up areas provides us."[9] The Army is still 'late'. This paper examines the applicability of fire support in MOUT. The review looks at the doctrine for MOUT, the history of fire support in MOUT and options for each phase.

SECTION II

U.S. ARMY DOCTRINE ON URBAN WARFARE

The single best indicator as to whether or not a national military force takes urban warfare seriously is the degree to which they appear willing to expend assets of time and material on training and training facilities.[10]

COL John C. Scharfen, USMC, RET
at the 1980 International Symposium on MOBA

Preparedness is measured by examining the training conducted by an organization and the doctrine available. The U.S. Army conducts 'battle focused' training. "Battle focus is a concept used to derive peacetime training requirements for wartime missions."[11] The concept of battle focus assumes that constraints limit units from being proficient in everything. Due to these constraints, commanders select and train the tasks that are critical to their wartime mission. The Army also analyzes potential wartime missions to derive doctrine to guide training for future operations. This paper has identified that MOUT is more probable for a force projection military. Therefore, the U.S. military should place a greater emphasis on doctrine and training for urban warfare.

Doctrine is a good place to begin evaluating our preparedness. The best doctrine to begin analyzing is the Army's capstone manual - Field Manual (FM) 100-5 Operations. Recent changes in this manual recognize an increased possibility of future urban combat. In the 1986 version, MOUT was listed under "Effects Of Terrain." The doctrine espoused Sun Tzu's approach toward urban warfare. It stated,

"Commanders should avoid committing forces to the attack of urban areas unless the mission absolutely requires doing so."[12] There is progress in the 1993 version in recognizing the increased probability of MOUT. In the 1993 version, MOUT was covered under "Special Operations." This version is more realistic as it states, "Urban operations present unique and complex challenges to Army forces."[13] While the aversion to MOUT has all but vanished, the doctrine does impart restrictive considerations. It states, "Commanders must enforce discipline in their operations to minimize unnecessary collateral damage and civilian casualties."[14] If the capstone manual reflects the trend toward an increased possibility of MOUT, presumably subordinate doctrinal manuals would also.

The immediate subordinate manual, FM 100-7 - Army Operations, has an entire chapter on force projection. This doctrine also mentions the possibility of forced entry operations. The natural flow would appear from force projection and forced entry to a discussion of MOUT. This is not so. This manual does not address urban operations.[15]

The next subordinate manual, FM 100-15 - Corps Operations, does not align with the capstone manual with an increased recognition of MOUT. The only discussion of MOUT is found under "Heavy-Light Considerations." The manual states ". . . the light infantry division can . . . conduct military operations on urbanized terrain."[16] The section of the manual that is most surprising (with its lack of emphasis of MOUT), is the "Corps Contingency Operations." This section describes the deployment/initial combat phase (which included establishing and expanding the lodgement, possibly under a forced entry scenario) and force buildup/combat operations phase. The

lodgement area includes a city and deep water port for follow-on forces. Despite these conditions of probable MOUT activities, there is still no mention of possible urban warfare.[17] This shows the continued reluctance to incorporate MOUT as part of the U.S. Army's battle focused missions.

Field Manual 71-100, Division Operations, does not address MOUT at all, but does address the need for a secure airfield, port or beach for contingency operations. The doctrine for infantry divisions, FM 71-100-2 - Infantry Division Operations, says that ". . . there are many areas in the world where attack or defense of a city may be required."[18] This manual, written in 1993, addresses MOUT in the same manner as the newer version of FM 100-5 (also written in 1993). The recognition is that MOUT may be a dangerous mission, but one that may not be avoidable. If urban warfare is unavoidable in the future we should also evaluate the doctrine by which our units have to train.

The capstone doctrine for MOUT is FM 90-10, Military Operations in Urban Terrain. The most recent version of this document was published in 1979. The manual is currently under revision, but for now the 1979 version is all we have with which to train. A tone of refrain is apparent in this 1979 manual also - "Built-up areas should be attacked only when no other alternative is available."[19] While we may still try to avoid MOUT, we must recognize its higher probability. It does lay out some basic guidelines for conducting this type of mission. The two most significant areas in this document are the doctrinal structure for offensive MOUT and its discussion of collateral damage and civilian casualties.

Field Manual 90-10 does a good job of describing the three phases for offensive MOUT. The three phases it prescribes are: isolate the objective, assault to secure a foothold, and systematic clearing. It also addresses the need to minimize collateral damage and civilian casualties. Fifteen years later, this limitation is still prevalent in recent rules of engagement (ROE).

How does this restriction affect the combined arms team? Field Manual 100-5 says that "Combined arms warfare produces effects that are greater than the sum of the individual parts."[20] This means that the commander attains a more lethal capability by combining the effects of complimentary systems (i.e., field artillery, air defense artillery, aviation, Air Force, etc.) with his maneuver units' organic capabilities. As a key part of the combined arms team, forces assume mass destruction when employing the conventional application of fire support assets. Field Manual 90-10 says that "Success may well be measured by how we accomplish our mission while minimizing destruction of buildings and alienation of the population."[21] Here we face the paradox of integrating the combined arms team with fire support while minimizing the destruction and civilian casualties. Can this paradox be overcome? Fire support doctrine should have the answer.

The U.S. Army family of fire support manuals (FM 6-20 series) cover planning from battalion to corps levels. While these manuals address MOUT, the tone is still very negative. These manuals touch on MOUT, but only provide a cursory overview. The most comprehensive document, on MOUT, from Fort Sill (the fire support center) is a White Paper titled "Fire Support for MOUT." The problem with this document is

that the roles of the fire support systems remain traditional. It also focuses mainly on the application of indirect fire support means. The White Paper is not complete since fire support includes many more assets (i.e., Army aviation, Air Force assets, electronic warfare systems, etc.) than just indirect means. The focus is also toward applying these assets at the periphery of the city.[22]

Since the preponderance of the White Paper's discussion is on applying these assets outside the city, one deduces that the options for fire support in the city are an all out rubble of the city or no fire support at all. This is probably true if fire support assets are employed in purely traditional roles and the newer more accurate systems are not considered. But since urban terrain is not the classical battlefield, we must consider how these assets can be employed in unique roles to best support maneuver forces.

The best document for MOUT in the field today is FM 90-10-1, An Infantryman's Guide to Combat in Built-up Areas, published in 1993. It recognizes the difficulty of urban warfare, but it also recognizes the probability of MOUT in the future. This manual introduces a new term, 'Precision MOUT' as the careful application of conventional forces to defeat an enemy who is mingled with noncombatants throughout the battlefield. This manual describes 'careful application' as limiting ". . . noncombatant casualties and collateral damage."[23] This limitation is readdressed saying that "The political concerns used to develop ROE may conflict with the physical security needs of the force."[24] Here again is the paradox of fire support contributing to force protection in densely populated areas while minimizing collateral

damage.

This section identified that the Army doctrine is inconsistent about conducting urban warfare. Older Army doctrine sought to avoid MOUT if possible. More recent Army publications accentuate the greater possibility and acceptance for future urban conflict. This paper examines the basis for this changing doctrine and why U.S. forces could conduct MOUT more effectively today.

SECTION III

EVOLUTION OF FIRE SUPPORT IN MOUT

At times, however, a village would be quiet but we could sense it was occupied . . . At this time the point would deploy and throw in some long range tank main gun fires at the top story windows and the church steeple to suppress or knock out observation and observed direct fires. Hopefully, white flags would show and the defenders - if any - would depart, sending out civilians to say there were no enemy troops left in town.[25]

LTG(RET) William Desobry

While LTG Desobry's approach was feasible during World War II (WWII), public opinion will not accept this uncontrolled destruction today. How did the Army's approach to MOUT change so dramatically given its prevalence in WWII?

Carl Von Clausewitz, in his masterpiece On War, stated "war is an act of force, and there is no logical limit to the application of that force. Each side, therefore, compels its opponent to follow suit; a reciprocal action is started which must lead, in theory, to extremes."[26] When involved in an unlimited war, the means applied will have few restraints. Allied responses to German and Japanese aggression did tend toward the extreme. World War II may have presented this extreme case, but U.S. forces will, most likely, be in limited scenarios in the future. World and U.S. opinion will, most likely, limit our forces in the means applied in future conflicts. The question is whether U.S. forces can apply restricted means in MOUT and still accomplish the mission and protect the forces.

This section reviews the effects of fire support in the battles of Stalingrad,

Khorramshahr and Hue. Based on these effects, the paper examines the reasons for developing the restrictive rules of engagement. Additionally, this section examines the conditions that led to the Army's current doctrine on MOUT. Finally, it reviews the MOUT conditions in a more recent conflict - Operation Just Cause.

* Historical Accounts

Historical studies reveal that urban warfare has been costly for both the attacker and defender. This section explores the results of three urban battles. The first battle occurred during WWII when the Germans attacked Stalingrad. The second case considers the Iraqi Army attacking to seize the city of Khorramshahr in 1980. Finally, this section reviews the battle of Hue which occurred during the Vietnam War.

Both the Germans and the Soviets learned critical MOUT lessons in WWII. The Germans learned how difficult seizing a city can be. The Soviets were forced to learn how costly MOUT is in civilian lives and structural damage when uncontrolled fire support is applied in the city.

The German Army learned how hard urban warfare was in their attack of Stalingrad during the summer offensive of 1942. The Germans based this offensive on massed firepower and speed. When the attack came to a stand still, at the outskirts of Stalingrad, the leaders tried to maintain its momentum by subjecting the city to massed aerial and artillery bombardment. During the week of 21 August, the German Luftwaffe flew over 2000 bombing missions a day with 600 aircraft in an attempt to regain the initiative. These raids alone killed about 40,000 civilians, but they did not

break the Soviet resolve to defend the city. Operationally, the air and artillery attacks created significant rubble that caused great problems for the Germans when they entered the city. "The city, including its 41,000 homes and 300 factories, was totally destroyed."[27] Despite continued efforts, the Germans could never isolate the city. This allowed continuous reinforcements and resupply to flow into the city. Although the Germans initially secured much of Stalingrad, the Soviets' counterattack regained the city.[28]

The battle of Stalingrad also showed how deadly urban warfare can be. "[T]he battle was the greatest bloodbath in recorded history. Well over a million men and women died because of Stalingrad, a number surpassing the previous record of dead at the first battle of the Somme and Verdun in 1916."[29] The costs of Stalingrad were high for both the attacker and defender.

The battle of Khorramshahr, which occurred during the Gulf War between Iraq and Iran in 1980, also demonstrated the costs of MOUT. Iran's largest commercial port, Khorramshahr, is located very close to the Iraqi border. To the Iraqis, this city represented a mandatory objective. Mandatory because the Iraqi government had publicly announced its seizure before the battle began. The Iranian regular forces were willing to sacrifice Khorramshahr, but the Iranian militia was determined to defend the city. "Overall, the battle pitted the better trained and equipped, but poorly led, Iraqi regulars against the poorly organized and equipped, but zealous Iranian militia."[30]

On 23 September, the Iraqis began their siege believing they could seize the city and minimize friendly casualties by using only tanks and artillery. The attack slowed

due to the inaccurate indirect fire of the artillery and the vulnerability of tanks in the city. The Iraqis finally gained control of Khorramshahr on 24 October, after isolating it on 16 October. The seizure of Khorramshahr proved very costly for the Iraqis. Although no numbers were released the Iraqis suffered numerous casualties. Additionally, "Iraq [Sadaam Hussein] may have seized Khorramshahr in 1980, but his prize was an ancient . . . symbol now reduced to ruins."[31]

The first two examples displayed MOUT under the conditions of an aggressor attacking into a hostile city with relatively few restraints. The next example, the battle of Hue, provides an example of the cost of regaining a friendly city once restrictions on the use of force are lifted. On 31 January 1968, the Vietnam war shifted from a rural battlefield to an urban one. On this day, the North Vietnamese and the Vietcong launched the Tet Offensive, one of the largest operations of the war. Over seventy thousand Communist soldiers attacked to seize over 100 cities and towns in South Vietnam. The heaviest fighting took place in the ancient capital of Hue, the historic centerpiece of the emperors of Vietnam.[32]

The battle of Hue was initially attempted under a restrictive ROE, but as the battle developed these restrictions were lifted at a tremendous cost. Six thousand communists took the city by complete surprise. The Army of the Republic of Vietnam Nam (ARVN) and U.S. Marine units were called on to liberate the city. Fighting became slow and deadly. "The original policy had been not to bomb or shell the old city, but these restrictions were dropped as combat intensified . . . The 25-day-long battle had destroyed about 80 percent of the houses within the citadel."[33] This deadly

destruction caused speculation about whether the gain of the town was worth the cost of lives and property. Captain Myron Harrington of the 5TH Marines asked, "Did we have to destroy the town in order to save it?"[34] This was the question that many senior leaders had to consider while planning future operations.

* Restrictive ROE Development

Let us compare these results with the situation of the late 70s and 80s to determine factors which argued for the restrictive ROE that are prevalent in current operations. These three cases show that MOUT is a costly operation in two areas - military and civilian lives, and property damage. To avoid these results senior leaders established restrictive ROE with the intent of "Minimizing civilian casualties and/or collateral damage to:

a. Avoid alienation of the local population.

b. Reduce the risk of adverse world or domestic opinion.

c. Preserve facilities for future use."[35]

First, to maintain popular support of the inhabitants, U.S. forces should attempt to minimize the destruction of their homes. Maintaining the popular support can aid significantly during and after operations. A friendly population will help during operations by providing important intelligence. Also, they will be much more cooperative during post conflict operations.

Second, the public does not understand why civilians must die during combat. In war, military casualties are acceptable if they are necessary for the mission. Civilian

casualties are completely different. While these casualties are often unavoidable, it is in the best interest of the United States to minimize them. This is easier said than done in an urban environment. The concentration of civilians on this battlefield makes it difficult to prevent injury to noncombatants. Indirect fire systems exacerbate this problem since they are area fire weapons. They are not suitable for attacking point targets unless units employ precision munitions.

The third reason for the ROE is future considerations. The Germans and the Iraqis sought different endstates than contemporary U.S. forces. The Germans and Iraqis were attacking an enemy nation with the intent to conquer, occupy and subdue. In many circumstances, U.S. forces are responding to support a host nation government. When the U.S. acts to overthrow an established regime, it seeks to stabilize the situation, to turn control over to civilian authorities to foster democracy. Given this, mass destruction would be counterproductive. Senior leaders also recognize the cost of rebuilding. Maintaining facilities can help expedite this reestablishment, but sometimes limited destruction may be necessary. As CAPT Harrington said, "We did our best to avoid malicious damage. Yet, when we had to destroy a house, we destroyed it."[36] Senior leaders, developing doctrine in the 70s, had to determine the best U.S. approach to MOUT. So how did they come up with the 'as a last resort' approach?

* MOUT Doctrine Evolution

The Cold War placed the NATO and Warsaw Pact countries face to face on the

plains of central Europe. The U.S. military and its NATO allies evaluated Soviet doctrine to determine direction for friendly forces. The Soviet's approach was to bypass cities.

> By the end of WWII, the Soviets were among the most experienced city fighters in history. Combat in cities such as Leningrad, Sevastapol, and Berlin taught them that this type of warfighting is time consuming and expensive in terms of personnel and resources. Soviet tactics from that point onward emphasized speed, mobility and the use of open terrain. Urban areas were to be bypassed and enemy forces in these areas were the responsibility of follow-on echelons. Considering this new Soviet doctrine, the Western military powers found it easy to relegate MOUT to a 'back seat' in training and doctrine.[37]

The western allies developed doctrine to prepare for this enemy who planned to avoid urban operations. The fire support community developed supporting doctrine and weapon systems which increased the Army's ability to counter expected Warsaw Pact attacks. Resulting increases in lethality and destructive capabilities of artillery and air delivered weapons reinforced the Army's focus away from the cities. These area weapon systems, if employed in the cities, would only increased urban damage and loss of life that the Army sought to avoid.

The conditions that produced the doctrine of the Cold War are gone. As stated in Section I, future conflicts show an increased possibility of urban warfare. Therefore, the Army must determine if it can successfully accomplish MOUT under new conditions. The fire support community must also decide if fires, which provide force protection and firepower, can be applied while minimizing the collateral damage.

Many of these systems have become much more accurate. The advent of precision weapons has added a new consideration for MOUT. As described earlier,

most fire support systems were designed as area weapon systems. Recent changes to munitions and guiding devices have made many of these systems pinpoint accurate. Army and Air Force resources can deliver these improved munitions. They include the field artillery copperhead projectile, the aviation hellfire missile, and the maverick and laser guided bombs delivered by fighter/bombers. Lasers provide the extremely accurate terminal guidance for these munitions. The forces can also control their effects in urban operations by considering nonstandard employment. Field artillery in a direct fire role and anti-aircraft artillery engaging a ground target are two methods that can increase the accuracy for MOUT. The combination of more accurate munitions and nonstandard employment provide the precision fire support. This was the fire support seen during Operation Just Cause.

* 21st Century MOUT

On 20 December 1989, U.S. forces conducted military operations in Panama to wrest the power from the illegitimate Noriega government. Since Noriega's Panama Defense Forces were concentrated in or around the two cities of Colon and Panama City, MOUT was imperative. The U.S. forces minimized collateral damage, while still accomplishing the mission, by carefully applying accurate fire support. "When compared against the success of D-Day operations and the relatively light collateral damage sustained in both Colon and Panama City, ROE implementation must be judged a success."[38] Perhaps the option of precision fire support has made MOUT a different battlefield than the one addressed in the 1979 version of FM 90-10.

The rest of this report reviews these weapon systems under the framework of MOUT operations. This framework includes isolating the objective, gaining a foothold, and systematic clearing. The paper also contrasts the application of these assets and their effects with respect of the restrictive ROE of minimizing collateral damage and civilian casualties. This paper analyzes examples of the precision fire support exercised during Operation Just Cause during this review. The scenario for this paper is a force projection with the immediate objective to seize a small city (< 200,000) with limited air defense capabilities.

SECTION IV

PHASE I - ISOLATING THE OBJECTIVE

An enemy is dislodged either by overthrowing him at some point of his line, or by outflanking him so as to take him in flank and rear, or by using both these methods at once.[39]

Antoine Henri Jomini

This section describes how fire support assets can strengthen the commander's efforts to isolate the city. If the immediate objective of this scenario is to seize the city, why is it so important to isolate it? Isolating the city prevents reinforcement and resupply of opposing forces in the city. This allows the attacking commander to develop and maintain a given plan. Plans are based on a force ratio at the time of assault. If additional enemy forces are allowed to enter the battle, this ratio changes and the commander's plan would have increased risk. In addition to increasing their numbers, these forces can provide a lift to the morale of enemy forces in the city. Isolating the city also restricts enemy resupply of ammunition and other supplies central to his defense.

The attacker can isolate the city through two methods. Attacking forces isolate the city physically or with weapons' effects. The attacker isolates the objective physically by positioning forces to block the lines of communication into the city. Attacking forces can also isolate the city through effects. By placing fires on these lines of communication, the commander limits reinforcements and resupply into the city. The

commander can use fewer forces to isolate the city through effects. The rest of this section describes how fire support assets can facilitate these two methods of isolation.

* Physically Isolating The City

This is the preferred method since it establishes a blocking force that provides continuous observation and coverage. "Isolating the objective involves seizing terrain that dominates the area so that the enemy cannot supply or reinforce its defenders."[40] This blocking force provides the commander a more secure isolation if he expects substantial enemy reinforcements, from outside the city.

The commander can employ fire support in the physical isolation of the urban area in two-steps. The first step is providing fires to support maneuver forces as they move to occupy key terrain to control roads leading into the city. The fire support provided for this movement is normal fire support provided to ground forces during any movement. The second step is providing the fires for the sustained isolation of the urban area. Fire support personnel should plan these supporting fires as for an encirclement. Fire support personnel should plan close fires to the interior and exterior of the encirclement since enemy pressure could come from either direction. These fires should complement direct fires and obstacles. Fire support planners should also plan deep fires during this encirclement. Army Aviation and Air Force assets are best able to provide these deep fires. They conduct deep operations to reduce the enemy strength before reaching the isolation forces. Planners must provide the means for early warning to facilitate employing these resources.

This type of isolation requires two major considerations. First, is that it may take time for ground forces to get into the blocking positions. The surprise of the overall mission will be compromised if these forces become engaged. Surprise can provide the assault force an advantage while seizing the city. Consequently, the commander may choose to isolate the city and gain a foothold simultaneously to avoid losing the element of surprise. This leads to the second consideration for fire planning - safety. Since the assault force will be inside the encirclement, planners must establish control measures to prevent the isolation force from firing on it. The easiest method would be to establish a unit boundary around the city proper. If this boundary is not created, fire support planners can establish a restricted fire line (RFL) around the city. This prevents the two freindly forces from firing on each other.

Most of these fires will be outside the city so collateral damage will be minimal. As stated earlier, physical isolation is the preferred method because it provides the commander a more secure isolation. It is also the preferred method of isolation for fire support because it provides a more positive target identification. Multiple sets of eyes will ensure that fire support assets are not engaging innocent civilians and vehicles, which may be targeted.

* Isolation Through Effects

The other means of isolating the objective is through effects. While this is not the desired method, it is time and force efficient. Consequently, this method may complement the physical isolation while forces are moving into position. The fire

support system requires two components to isolate the objective through effects - the targeting and delivery means. The targeting means include observation posts, scouts, air scouts, and intelligence assets. These reconnaissance resources maintain visual coverage of the entry routes to the city. They control the delivery means when enemy forces approach the city along these routes. The delivery means are weapons that can quickly provide effects on the target. These weapons include field artillery, mortars, attack helicopters, close air support, and possibly naval gunfire. They provide the commander responsive and flexible combat power. After firing onto a target on one avenue of approach, these assets can quickly apply its effects onto another avenue.

During Operation Just Cause, Task Force Atlantic isolated the Panamanian city of Colon at H-Hour. Colon is situated on a peninsula. Ground forces secured the bottleneck entrance into the city, while air and naval assets secured the water areas around the peninsula. As fighting became intense at the bottleneck, ground forces called for field artillery support to facilitate the isolation.[41]

This section discussed the two methods of isolation. The commander may choose to isolate the city physically or through effects. The former is the preferred method since it provides a more secure isolation. The commander should carefully analyze this option due it being force intensive. Isolating the city through effects is the other option available to the commander. This method employs minimal forces outside the city that control the effects of fire support assets to facilitate the isolation. Fire support assets have a role in each of these methods of isolation. During the isolation phase, collateral damage and civilian casualties are not major considerations since the

fire support is generally applied outside the city. The exception is that physical isolation can provide better targeting, which could reduce inadvertent attacks of civilians.

Finally, although the isolation force plays a key role by ensuring the combatants in the city are not reinforced or resupplied, it is the supporting effort. The assault force is the main effort conducting phases II (securing a foothold) and III (systematic clearing). This paper will now examine how fire support assets can complement this main effort.

SECTION V

PHASE II - SECURING A FOOTHOLD

We must select for our attack one point of the enemy's position and attack it with great superiority[42]

Carl Von Clausewitz

This phase of the operation is similar to a penetration. "Commanders use penetration when enemy flanks are not assailable. They mass sufficient combat power at the point of penetration to overwhelm the enemy and gain the advantage."[43] In Sun Tzu's quote to begin Section I, he described this phase as the troops "swarm the walls like ants." A carefully planned and executed penetration can produce better results than Sun Tzu describes. The intent of securing a foothold is to provide the assault force a point of entry into the city. Fire support can contribute to this intent, but the commander must first consider the tradeoff of increased firepower for the loss of surprise. If surprise of the assault has not been lost, he may want fires to be planned only. Fire support facilitates securing a foothold by suppressing and deceiving the enemy and by concealing friendly forces.

* Concealing and Deceiving Fires

The first two options the commander has for fire support, if the force has lost the element of surprise, are concealing and deceiving fires. First, planners design concealing fires to prevent the enemy from seeing the assault force. Second, deceiving

fires can deceive the enemy of the intended entry site. This subsection will review these two options.

The primary concern during this phase is force protection. While forces are approaching the city, they are exposed to enemy fire. Planners design concealing fires to obscure the vision of the defender while the assault force moves forward. Smoke missions from mortars and artillery are the best fire support weapons to provide this concealment fire. Commanders must also recognize that smoke can reduce the effectiveness of other weapon systems.

Concealing fires, delivered by indirect fire support systems, can also tell the defender where the assault will come from. In this situation, deceptive fires can complement the operation by misleading the defender to where the assault will occur. Carefully placed smoke, high explosive and illumination rounds may lead the enemy to believe that the assault force will conduct their entry at that location. Meanwhile, the assault force is securing the foothold in a different location of the city.

The commander must carefully consider the targets when employing deceptive fires. Poorly placed fires could cause significant collateral damage and civilian casualties. Fire support personnel should consider carefully weapon employment. First, artillery smoke and illumination are base ejection projectiles. Fire planners must consider the point of impact of these canisters in order to minimize negative effects. Second, the choice of smoke must be Hydrogen Chloride (HC) versus White Phosphorous (WP) since WP is more likely to produce fires.

* Suppressive Fires

Fire support systems can augment ground forces in suppressing enemy fire during the approach to the city. As stated earlier, ground forces are most vulnerable during this approach. Suppressive fires force the enemy to take cover for a given period facilitating the friendly force's operation. The assault force uses this time to secure a foothold. Accurate application of fires can minimize the collateral damage, a major consideration for suppressive fires. At times, collateral damage may have to be a secondary consideration to force protection. If enemy fire overwhelms friendly forces, while securing the foothold, the entire mission could be in danger of failing. Suppressive fires facilitate friendly efforts during this dangerous phase. In more extreme cases, the commander may employ fire support assets to contribute to this suppressive fire. The two major targets for suppressive fires are rooftops and point targets in buildings.

Rooftops provide the occupier the best observation and fields of fire available in the city and often represent key terrain. Consequently, they are often ideal locations for observers and snipers.[44] The best weapon systems to suppress these targets are AC-130s and indirect fires - mortars and artillery. AC-130s can direct fire, with 20mm or 40mm guns, onto rooftops to suppress targets. Mortars and artillery are also useful to suppress these targets. To minimize collateral damage, units should plan airbursts for these fire missions. An airburst will cause the round to explode before impact with the roof. The airburst will attain the desired effect of suppression while minimizing the collateral damage.

Point targets inside buildings are more difficult when considering collateral damage. Force protection must be considered at this point. The defender has many possible firing positions in which to place his forces. Every window is a potential fighting position. The best weapons to engage these positions are direct fire systems. The ground forces should suppress the target with their organic weapon systems. The commander may decide to use fire support systems if suppression of organic weapons is insufficient and the force is significantly threatened.

Attack helicopters are the best fire support option for the combination of firepower and accuracy. This combination can provide the commander the increase in suppressive power while limiting the collateral damage. Minimizing unnecessary collateral damage is the goal, since it is perhaps impossible to eliminate all collateral damage. If the assault force is endangered, the commander must trade limited collateral damage for the increased force protection. Attack helicopters can provide these effects for the commander. During Operation Just Cause, the Joint Task Force commander praised the Apache's accuracy saying that it can fire a Hellfire missile through a window at five miles away at night.[45] The AH-64 can also fire 30-mm guns and/or 2.75-inch rockets to suppress the target.

During Operation Just Cause, Task Force Atlantic conducted an amphibious assault across Limon Bay to gain a foothold of Colon. Just before the amphibious assault, a company team conducted a feint at the bottleneck to deceive the defender to the direction of the assault. Attack helicopters, AC-130s and artillery provided the fire support for the amphibious assault. Also, fire support personnel planned artillery

smoke missions between the landing beach and the initial city buildings.[46]

Fires, during this phase, facilitate the assault force in securing the foothold of the city. This foothold is very important to the assault force, since this breach is where the rest of the assault force will enter the city. During this phase, the commander must weigh the paradox of collateral damage and civilian casualties against the loss of force protection. He must carefully consider the force's vulnerability when considering the use of fire support assets on the periphery. Planners can employ them to either conceal friendly forces moving forward or deceive the enemy of the entry point. If the force is significantly threatened, the commander may also decide to employ fire support assets to suppress enemy forces. At this point, forces have isolated the city and secured an initial foothold. Now let us examine the most difficult phase, the systematic clearing. Here, in the middle of the city, can fire support assets contribute to the operation or should they stay outside the urban area?

SECTION VI

PHASE III - SYSTEMATIC CLEARING

The required size of the attack force is dependent on the quality of intelligence, degree of surprise, and degree of superior firepower (air, armor, artillery) the attack can achieve versus the degree of sophistication with which the defender has prepared the city.[47]

As the main effort of this operation, the light infantrymen are responsible for the difficult task of clearing the buildings and eventually seizing the city. All other forces must aim to complement their efforts. As mentioned earlier, the Army developed mobile forces to counter the Warsaw Pact threat of central Europe. The U.S military sought to exploit the range, mobility and accuracy advantages of the new weapons. The close combat of the urban battleground counters these advantages. While these more lethal and destructive weapons were not designed for MOUT, they can complement the light infantryman's efforts.

The size of the force required to seize a built-up area is based on force ratio, the amount of intelligence and surprise the attacking force maintains.[48] Superior firepower is one of the factors in determining the required force ratio. Fire support can significantly contribute to these factors. For planning purposes a combat ratio between three-to-one and five-to-one should be sufficient for success. Commanders control these ratios through force allocation. The undetermined variables are the degrees of intelligence, surprise, and superior firepower.[49] This section discusses how the fire support can facilitate the systematic clearing of the city. Since these resources cannot

clear the buildings, this section examines how they can contribute to the mission by collecting and reporting intelligence, by helping achieve surprise, and by providing firepower. This section continues to analyze these contributions under the conditions of minimizing collateral damage and civilian casualties.

* Intelligence

A commander with a clear picture of the battlefield can organize his force to maximize its efforts. He gains this clarity through accurate intelligence. Intelligence is "the product resulting from collection, processing, integration, analysis, evaluation, and interpretation of available information."[50] Commanders use this intelligence to alter current operations and plan for future operations. This intelligence could include early warning of enemy troop movement or counterattack, enemy defensive disposition, obstacle locations, and possible strong point defenses. Intelligence collection on the urban battlefield is impeded by the tall and dense construction of most city buildings.[51] Ground observation is extremely hindered in the built-up area. Scouts are the primary organic resources the commander has to collect intelligence in MOUT. The fire support community can also supplement scouts and other conventional intelligence systems. The fire support assets that can collect this type of information include Army and Air Force resources. Forces positioned on top of high buildings and in aircraft can provide the commander important information.[52]

A forward observer (FO) positioned on tall buildings can gather information about enemy movement. The FO is vulnerable to enemy indirect fire on the roof. But, if

these systems have been silenced, the roof provides the best line of sight in the city. If the indirect systems have not been silenced, the FO may position himself on lower floors. This will reduce his peripheral vision, but increase his protection.

Army aviation assets are also tremendous sources of battlefield information. To one experienced urban warfighter, the OH-58D is the best resource for collecting and reporting this valuable intelligence.[53] This highly versatile helicopter provides the commander many benefits. The OH-58D has a day and night capability even in adverse weather conditions. This system can see areas restricted to ground forces and can control delivery of fires.[54] The AH-64 and AH-1 are also superb day and night capable systems for collecting urban battlefield information. Army aviation has the mobility to collect information deep within the city.

Air Force systems also provide valuable information. Aerial photography gives the commander specific data of the city. During combat in Beirut, the Israelis ". . . had an outstanding ability to locate PLO facilities and designate targets . . ." using aerial photography.[55] Additionally, pilots can relay observations to ground liasons. The AC-130 is the most versatile platform. During Operation Just Cause "the AC-130 continued to put down suppressive fire as well as give the SF Teams reports of where the enemy was moving."[56] The AC-130 provides real time information to the commander on the ground. Optical systems on the AC-130 allow it to accurately observe conditions within the city.[57] Personnel on the AC-130 can then forward this information to the ground forces. Forces in Panama, also used OA-37s to collect battlefield information. While other fighters and attack aircraft, like the OA-37, can

collect information, their capability is limited due to their speed.

One final air platform that can provide detailed information, but not often considered for MOUT, is the Unmanned Aerial Vehicle (UAV). In Somalia, units found the UAV to be a fine asset to "provide covert observation of a specific target for extended periods of time without compromising itself."[58] A note to consider is that many air platforms have already been identified operating in and around the airspace directly above the city. Coordinating the use of airspace is going to be an important issue in future urban operations.

The paper has discussed how fire support resources contribute to providing valuable combat information, which otherwise may not be available. When considering the paradox, one can see that these systems can gather information without risking collateral damage and civilian casualties. Later, this paper examines the firing capabilities of these systems, which can cause extensive damage and casualties.

* Surprise

The degree of surprise achieved by the attacking force also influences the size of the attacking force necessary to accomplish the mission. What benefit can fire support assets provide to surprise? Would not their application be counterproductive in attaining surprise? Field Manual 100-5 states, "Commanders achieve surprise by striking the enemy at a time or place or in a manner for which it is not physically or mentally ready."[59] Planners normally consider surprise as gaining an advantage by attacking the enemy in a time or place that he does not anticipate. Fire support can

also provide a psychological advantage by attacking the enemy in a manner that he does not anticipate.

The noise and shock associated with the employment of fire support systems has a significant psychological effect. Ardant Du Picq discussed the moral domain and the impact of combat on a soldier. The fundamental human trait that appears on the battlefield is a sincere desire of self-preservation. When faced with an enemy who is trying to kill you, the immediate response is to flee the battlefield. This is not a sign cowardliness, only human nature. No one wants to die, so when faced with this possibility a soldier's initial instinct is to remove himself from that situation.[60] The increased noise and shock of fire support assets exacerbates this condition.

The stress of close combat in urban areas produces the ideal scenario to exploit the self-preservation trait. Commanders exploit the effects of the highly lethal U.S. arsenal of weapons to produce this psychological deterioration. The assault force attains this result in two means, lethal and nonlethal attacks. Although lethal fires have dramatic psychological effects, for this paper they fit better under the firepower portion.

Nonlethal attacks may not create enemy casualties, but they can still achieve the desired effect. Forces demonstrate available firepower to lessen the enemy's will to resist. This decreased resistance also diminishes the risk of unnecessary collateral damage and civilian casualties.[61] These effects were observed often during Operation Just Cause. In Colon, Task Force Atlantic used OA-37s to collect battlefield information. These jets flew just above the building tops. Although they were

relatively small, the noise within the city was devastating. As a result, many enemy soldiers laid down their weapons and surrendered.[62]

There are other assets that forces use in a nonlethal mode. The spotlight on the Spectre can be moved around with great accuracy. While this is not lethal, the person in the spotlight realizes that he could be engaged very quickly. In another example, an F-117A Nighthawk produced superb results despite missing its target during Operation Just Cause. "General Stiner said that many of the Rio Hato defenders began to throw down their weapons and run after ordnance from one Nighthawk landed within 50 yards of their barracks."[63] The shock of the Nighthawk's near-miss produced the desired effect.

The potential impact on friendly force morale is a related issue is. A consideration for commanders on the ground is to ensure that U.S. forces realize that these are friendly aircraft. Stress of urban combat is high for friendly forces also. If they realize that this aircraft, making all this noise, is contributing to the effort it will protect (and possibly even lift) their morale.

Again, in this nonlethal mode, fire support contributes to the mission while minimizing the collateral damage and civilian casualties. The effects of nonlethal attacks facilitate the mission, although they do not physically clear any buildings.

* Superior Firepower

The degree of superior firepower also influences the necessary size of the attacking force. This last portion of the paper deals with the most sensitive issue of

this paper - the application of fire support assets inside the city in a destructive mode. Here the analysis considers the careful application of fire support assets to remain within the restrictive rules of engagement of minimizing collateral damage and civilian casualties. First, why do ground commanders need fire support? Fire support is a combat multiplier. It allows the commander to apply combat power at the decisive point while minimizing the ground forces employed there.

Two methods of employing fire support assets inside the city are as a show of force and to defeat strong point defense. A show of force is similar to the demonstration explained above except with the show of force the asset engages the target. An example of this occurred at Coco Solo during Operation Just Cause. At H-Hour, an infantry company engaged the PDF infantry company barracks with a Vulcan in the direct fire mode against a ground target. After two volleys of Vulcan fire, the infantry company quickly surrendered.[64]

The application of this asset at Coco Solo came under extreme scrutiny, due to adjacent facilities and nearby civilians. There was a housing area for U.S. families stationed in Panama adjacent to the Coco Solo complex. Also, there was a restaurant in the same building as the PDF infantry company barracks. Applying the Vulcan in this direct fire mode proved accurate enough to selectively choose targets while ensuring the safety of civilians and other facilities.

Using fire support to defeat a strong point defensive position is the more extreme application. Forces should use this employment only against targets that would present a formidable defense. This will usually be a 'purely' military target. An

example of this also occurred in Colon during Just Cause. Upon entering the city, an initial objective for one of the infantry companies was the Colon Police Headquarters. The infantry company had two 105-mm howitzers attached for the operation. Upon approaching this objective, the company team immediately received fire from the police headquarters. The ground force provided suppressive small arms fire while the two gun sections setup. Within a minute, the sections began to direct fire 18 rounds fuzed with 1/2 second delay into the headquarters. At the end of this barrage, there was no further fire coming from the building. The company team cleared the building with ease.[65]

Planners were concerned about firing artillery in this part of Colon. Nearby, there were Panamanian homes and a warehouse district. All of the structures, in this part of Colon, were of poor construction. Inaccurate or poorly applied fire support would have led to significant damage to these facilities. The Task Force Atlantic commander contrasted these conditions and the strong point defense of the Deni Headquarters. The decision was to use artillery in a direct fire mode to help reduce the strong point while controlling any residual effects.

So far this section has discussed direct fire field artillery and antiaircraft artillery. The other three support systems we can use in the city are armored vehicles, attack helicopters, and close air support. While armored vehicles and attack helicopters are not usually employed as fire support systems, they can significantly increase the firepower available to the commander and contribute to force protection. "The light infantry is truly the 'work horse' in this type of environment."[66] Everyone else's role is

to perfect their efforts.

Bradley Fighting Vehicles (BFV) and M1 tanks provide tremendous firepower and protection to the ground forces. Armored vehicles and light infantry must be employed together. The light infantry must understand its role of providing protection for the armored vehicle. In close combat the BFVs and M1s are vulnerable because of their inability to maneuver freely and employ its main gun at a comfortable stand-off range. They are also vulnerable to anti-armor weapons from many directions at close range. When employed together, light infantry and armored forces complement each other and provide far more firepower and protection than the light forces alone. While an initial problem exists with the deployability of armored vehicles, their force protection and firepower significantly augment the light forces.

These systems can apply tremendous firepower while staying within the restrictive ROE. They can easily control their fires since they are direct fire systems. The battlefield may be different, but the direct fire mode is the norm for these assets. The concern of collateral damage would be minimal if the fires are controlled.

While attack helicopters continue to gain recognition as a maneuver force, during MOUT they must be fire support assets. Although the terrain will constrain the attack helicopters' maneuverability, they provide tremendous fires with great accuracy. During Operation Just Cause, the AH-64 provided excellent fire support for ground forces in the cities.[67] AH-1 Cobras are also superb fire support assets. During Just Cause, Cobras provided preparatory fires on guard towers and guard barracks during an air assault to seize Renacier Prison.[68] These day/night capable systems can provide

the ground force a great multiplier. Their immense firepower combined with accuracy and a two-hour flight time make these assets a reliable source for this difficult mission.

The accuracy and degree of firepower will contribute to satisfying the ROE. This paper discussed, in Section V, the accuracy of attack helicopter at the periphery of the city. The accuracy also applies within the city, but units must take greater care. At night, lasers act as an aiming device that help reduce problems in communicating targets to firing systems. Forces on the ground should use a progressive increase of firepower when employing attack helicopters. This means that forces should use the 20mm or 30mm guns before using the TOW or Hellfire. This will help minimize collateral damage and reduce inadvertent civilian casualties.

Finally, the AC-130 is the weapon of choice for Precision MOUT. This versatile air platform has three choices of weapons. It has a 105-mm howitzer, a 40-mm cannon, and a 20-mm rapid fire gun. It also has an infra-red (IR) light. At night, ground forces can verify the target before the AC-130 fires. The AC-130 can paint the target with this IR spotlight allowing the ground forces, using night vision devises, to verify it.[69] Being able to see where the rounds will impact, before the AC-130 shoots, is ideal for minimizing collateral damage. During Operation Just Cause, the AC-130 demonstrated this capability brilliantly. The positive target identification, provided by the IR spotlight, minimizes collateral damage. The 20mm and 40mm guns are very effective against most urban targets. The 105mm gun provides additional firepower for strongpoint defenses. The residual effects of the 105mm is far greater than from

the 20mm and 40mm.[70]

This section discussed a few of the fire support applications while following the intent of the restrictive ROE. Minimizing destruction is not a normal process when applying fire support assets. The paradox of sacrificing firepower and force protection in order to minimize collateral damage and civilian casualties is most prevalent during this phase. However, the intent is to minimize, not eliminate, collateral damage and civilian casualties. The loss of firepower and force protection is not necessary. The commander should not reduce the force protection if he can use these tools and minimize the negative effects. The careful application of these assets satisfies both conditions of the paradox. Fire support can be applied in the city while staying within the ROE.

SECTION VII

CONCLUSION

We have paid the price of being wrong before. It is far cheaper in the long run, and far safer, to pay the price that readiness requires -- even in this safer world that our past efforts have made possible.[71]

United States National Military Strategy, 1992

The cries for 'no more Task Force Smiths' have echoed through military halls for the last few years. The emphasis is that the military must maintain its 'trained and ready' status during peacetime. Trained and ready are two separate considerations. It is possible to be trained but not ready because the training was ill-focused. Senior leaders and doctrine provide the focus for this training. To this point, the senior leaders have not given MOUT the emphasis it deserves. The force projection military of today and tomorrow will face increased urban fighting.

Without this emphasis from senior leaders, our junior leadership must rely on the doctrine to guide their training. "As Sun Tzu stated some 2000 years ago, the costs associated with conducting urban warfare can be exorbitant. The United States discovered in the 1968 battle for Hue City that this excessive cost is guaranteed when war is waged by an untrained unit without appropriate doctrine."[72] The surprise of Tet is somewhat understandable since the focus was on jungle warfare. Today, the U.S. military looks to the future but refuses to see the inevitable.

With force projection as the concept for employing forces in the future, MOUT will be a probable course of events. This paper pointed out that MOUT is more likely in the future and that it is one of the more difficult operations. These two facts argue

for more emphasis on MOUT. If we do not prepare for it, we will enter the situation in much the same manner as the Marines in 1968. The conclusion of 1968 was, "if the VC (Vietcong) had made one smart move, they would have had our ass, hat and cufflinks."[73] The Army should not enter the next conflict hoping that the enemy does not make 'one smart move.' Therefore, the Army must recognize the increased probability of urban warfare.

Just as the Army, as a whole, must realize the probability of MOUT in the future, the fire support community must recognize that they have a role in this difficult operation. Fire support assets provide the commander a combat multiplier that expands his options. Viewing fire support only for the firepower is a naive approach. Outside the city, fire support helps get the ground forces into the city and protects them once they are in there. Inside the city, fire support systems can provide intelligence and a psychological advantage.

The commander on the ground must do a careful cost analysis as far as applying this firepower inside the city. Minimizing collateral damage and civilian casualties will be two critical criteria in assessing success in future MOUT.[74] Staying within the constraints of this restrictive ROE must be a top consideration. But, this constraint does not have to eliminate a combined arms effort within the city.

There are two conditions that make precision fire support in the city a reality. First, the more accurate weapon systems provide many more options than were available to the Marines at Hue. Today's cannon and air assets deliver timely and pinpoint accurate fires. Employing these assets in this manner is feasible, but suitable

only if the combined arms team is trained. Imagination is the second condition that makes the restrained employment of fire support in the city feasible. The U.S. Army's weapon systems were not designed for employment in a force projection role in the close environment of the urban battlefield. Using the Vulcan in a direct fire role against a ground target was not the planned application, but this employment paid great dividends during Operation Just Cause. Artillery cannons are effective direct fire weapons in MOUT, but crews require extensive practice in direct fire techniques. Unfortunately, most artillery units conduct direct fire only once a year for 'best section' competitions. Using armored vehicles in a support role, to provide accurate firepower and force protection for the ground forces, could be a great benefit in MOUT. Here again is the problem that with limited resources, these units elect to spend their time on the gunnery range and in maneuver areas. These units train hard and the training they conduct is very important, but we have to face the changing times. In force projection, securing ports in or near cities has to be the U.S. Army's first concern. Without these facilities, the Army cannot get to the battlefield to display its other talents.

Military operations in urban terrain will be a significant feature of future conflicts for which the Army must prepare. This preparation must begin with a greater emphasis from senior leaders and within doctrine. While the Army doctrine is slowly moving away from the Sun Tzu approach of 'never' to the more feasible approach of 'carefully', it must continue this progress.

United States Army units have avoided MOUT for many years, partially because it

was a mission they would not have to perform and partially because it seemed too hard to do. Today the probability of this mission is much higher and it is still hard to do. In 1980, one of the Army's greatest trainers, GEN William E. Depuy, said that MOUT was an "unclimbed mountain."[75] That 'mountain' still exists. Before the National Command Authority sends us to this 'mountain' on short notice, we need to prepare for the long journey to the top. The U.S. military should conduct this difficult mission as a combined arms team. Fire support does have a role in MOUT and it can satisfy the restrictive ROE. Precision fire support is the technique to overcome the paradox.

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